4.8 PLS - Planning Subsystem

4.8.1 Introduction

The Planning subsystem provides the functions needed to plan routine data processing, schedule ad-hoc processing, and dispatch and manage processing requests.

The Planning Subsystem supports the site operations staff in developing a Production Plan based on a locally defined strategy, reserving the resources to permit the plan to be achieved and the implementation of the plan as data (push) and production requests (pull) are received. It also allows the site operations staff to negotiate on a common basis with other provider sites and EOSDIS management (via MSS/SMC) if any change to their Production Plan causes conflict with other provider sites plans (e.g., where dependencies between processing algorithms cannot be fulfilled).

The design separates the generation and implementation of a Production Plan in this subsystem from the detailed queuing of processing within the Data Processing Subsystem. The following distinction is made:

- Production Plan—what the local site wants to achieve if data arrives according to the agreed data availability schedule until the production strategy is changed
- Processing Queue—what the site is currently doing for the next operations period to implement the plan as a result of data arrivals and user requests for processing.

Thus the Production Plan implements the local site strategy with regard to the priorities it wants to apply to standard processing, reprocessing, on-demand processing, etc. Of course, these priorities may be influenced by EOSDIS-wide mandates; but the general aim is to provide the ability for a site manager to define a local production strategy.

The nature of the planning process will be different for routine and on-demand processing requests:

- Routine Processing—this type of request consists of standard production requests and reprocessing production requests. These requests will be generated internally by Planning based on the processing strategy that the site wants to follow, or has been mandated by EOSDIS management. If the required data for the processing is already available the request will be processed according to the plan. If the data is not available the planned request will only be initiated when data arrives.
- On-Demand Processing—these requests are different from routine processing requests which generate output data products as a matter of course in that On-Demand processing must be specifically requested by the end user. Requests will be formulated at the Data Server and passed to Planning. On-Demand Production Requests (OPRs) are checked against resource usage thresholds. If an OPR exceeds a resource usage threshold, it will be passed into the regular planning stream and treated as any other standard or reprocessing request. OPRs that do not exceed the resource usage threshold (it is expected that most will not) will be sent to processing immediately. On-Demand Production Requests are only implemented in Release B and these features are not available in Release A.

Local policy will dictate the split of production resources to be devoted to routine requests and on-demand requests. This policy will be based on expected usage of a product and resource cost analysis for particular data collections and be implemented through a processing strategy (e.g., Processing computer EDC-A will be dedicated to on-demand processing from 0800-1700 EST) and the application of priority rules (e.g., On demand processing in support of the BOREAS-2 field campaign gets highest priority between 1 May and 30 June 1999). The Planning Subsystem must support variations in policy from service provider to service provider, from data collection to data collection, and over time (e.g., as usage patterns change).

One of the new capabilities of the planning production workbench in Release B is cross-DAAC planning. This will allow a production scheduler at one DAAC to display data dependencies with other DAACs and to identify any conflicts in planned data production times. This will allow the production schedulers to view multiple DAAC plans as one plan. The priorities and scheduled execution times of jobs causing conflicts can be noted and the DAACs can work together, if necessary with the SMC, to resolve the conflicts.

4.8.2 Planning Subsystem Summary

4.8.2.1 Subsystem Interfaces

Refer to Section 3 of 305-CD-026-002 for a context diagram and for more detail of the flows between subsystems. The Planning CSCI may interface with the following SDPS subsystems to fulfil its responsibilities:

1. *Data Processing Subsystem* —The Planning CSCI is responsible for creating a Production Plan to be coordinated with the Data Processing Subsystem. The Production Plan information is conveyed to the Data Processing Subsystem through the use of Data Processing Request (DPR) messages. For each DPR, Planning provides priority information which Processing uses to manage the execution of Product Generation Executives (PGE) and the resources that a PGE requires for execution. Each DPR represents one processing job to be performed by a Data Processing Subsystem computer resource. DPRs are submitted by the Planning CSCI to Data Processing when the a candidate plan is activated.
2. *Data Server Subsystem* —The Planning CSCI monitors when the necessary input data for a DPR is available. This determination is provided by the Data Server Subsystem through two methods. Queries are submitted by Planning to determine if the necessary data already exists and is stored in a Data Server. If all the input data for a DPR is available at plan activation, the job is entered in a 'ready' state. DPRs whose input data is anticipated to become available in the future (e.g., Level 0 data from EDOS or TRMM, or data from a remote DAAC) are submitted in a 'hold' state. Subscriptions are submitted to the appropriate Data Server which results in a Subscription Notice being provided to Planning when an instance of that data becomes available. Subscriptions can also be made to Planning Data Availability Schedules (PDAS) so that predictions of when the data will arrive can be used when planning production. When all the input data becomes available, Planning releases the DPR so it can be executed when resources become available. In addition, Planning also uses the Data Server to store both candidate and active plans for distribution.

3. *MSS* —MSS services provide predicted processing hardware resource availability and services for Performance, Fault, Accounting, Accountability, Configuration, and Security Management.
4. *Operations Interface* —To support the management and monitoring of the generation and implementation of Production Plans, a HMI interface is provided. This interface provides access to and control of the Planning database which drives the generation of candidate plans and allows the selection of one of these plans to become the currently active plan. It also provides the ability to monitor the implementation of the currently active plan to determine production status.

4.8.2.2 CSCI Overview

4.8.2.2.1 PLANG- Production Planning CSCI

The PLANG CSCI will provide the ability to create, modify, and implement a Production Plan for a site. A Production Plan is generated by expanding Production Requests (PR) into individual Data Processing Requests (DPR) and ordering those DPRs with reference to priorities, predicted resource availability, and predicted data availability times. Multiple candidate plans can be created, but only one plan is currently active at any one time. Planning implements the selected Production Plan by submitting the DPRs in the plan to the Data Processing Subsystem. PGE execution status is recorded against the plan to assess the progress of data processing.

Production Requests are entered by the Production Planner for standard and reprocessing production. These requests are maintained in the Planning database and are included in the next candidate plan when it is generated. On-Demand Requests are accepted by the Planning subsystem from the Data Server. Depending on whether On-Demand Requests meet pre-determined criteria, they may be either submitted immediately for processing queuing, or they may be added to the Planning database for inclusion in the next candidate plan.

Data Processing Requests are submitted by the Planning subsystem for processing when the required input data is available. For standard processing, input data may not be available when a plan is activated. Data will be expected to arrive during the Plan time frame from EDOS or TRMM. Planning will be informed of this data availability by Subscription Notices as a result of Subscriptions manually submitted to the appropriate Data Server.

The PLANG CSCI tracks the status of all Production Requests entered and all Data Processing Requests generated. Management reports are generated (either periodically or upon request) that provide information concerning the Planning workload and the status of requests processed.

This section contains the requirements that define the following capabilities of the PLANG CSCI:

- Production Request Processing. This group of PLANG CI requirements relates to the receipt and handling of Production Requests for processed Data Products. Requirements included in this group concern the entry/update/cancellation of Production Requests for Standard/Reprocessing/On-Demand Products, validation of the requests, and responses returned to the originator.

- Planning Data Management. This group of PLANG CI requirements relates to the storage and management of Planning internal data required by the PLANG CI to perform production planning and production management functions. These requirements identify the data that the PLANG CI needs to track and maintain, in addition to the storage/browse/update capability associated with the data.
- Production Plan Generation. This group of PLANG CI requirements relates to the PLANG CI's capability to generate candidate plans (production planning) and activate/cancel active plans. Requirements relating to the receipt and processing of Data Availability Schedules, candidate plan generation criteria, generation of Data Processing Requests for production and test environments, and handling of Data Subscriptions/Notices are included in this group.
- Production Status Monitoring. This group of PLANG CI requirements relates to the PLANG CI's capability of monitoring the status of the Data Processing Requests returned by the PRONG CI and of updating the current active plan with this feedback.
- External/Internal User Support. This group of PLANG CI requirements cover the PLANG CI's ability to support the operations staff and user community interfaces. The requirements define the different types of graphic user interfaces needed to interact with the PLANG CI, the status/warning/faults messages displayed and the different types of reports generated.
- System/Service Management Support. This group of PLANG CI requirements relates to the PLANG CI's ability to provide Planning management data, detected Planning fault data and product scheduling/status data to MSS.
- Design Requirements. This group of PLANG CI requirements includes requirements relating to the PLANG CI's design and implementation.

4.8.2.2.2 Planning (PLNHW) HWCI

The Planning HWCI (PLNHW) is the primary HWCI in the Planning subsystem. The HWCI consists of 4 components: (1)Production Planning, (2) Production Management (3) DBMS Server and (4) Planning Workstation.

4.8.3 Requirements Table

The following table lists all PLS L4 requirements for Release A & B in numerical order together with their RbR parent requirements.

Planning Subsystem L4 to RbR traceability (1 of 49)

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00005	A	The PLANG CI shall accept priority Production Requests for the generation of specific Data Products.	PGS-0165#A	The PGS shall accept priority processing requests from the IMS.
			PGS-0165#B	The PGS shall accept priority processing requests from the IMS.
			PGS-0170#B	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives from the SMC.
			PGS-0170#A	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives.
			IMS-1000#B	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time
			IMS-1000#A	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time
S-PLS-00010	A	The PLANG CI shall accept Production Requests for specific Data Products with associated time windows that are to be routinely generated.	IMS-1000#B	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-1000#A	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time
			SDPS0030#A	The SDPS shall produce Standard Products (as listed in Appendix C, including prototype products on a time-available basis) for EOS instruments based on the algorithms source code and calibration coef§cients supplied by EOS scientists.
			PGS-0160#A	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			EOSD1050#A	ECS shall generate and make available to the users Level 1 Standard Products within 24 hours after the availability to ECS of all necessary input data sets.
			EOSD1720#A	ECS elements shall receive from the ECS user community the following types of data requests at a minimum: b. Data Distribution Requests c. Reprocessing Requests
			SDPS0030#B	The SDPS shall produce Standard Products (as listed in Appendix C, including prototype products on a time-available basis) for EOS instruments based on the algorithms source code and calibration coef§cients supplied by EOS scientists.
			EOSD1080#A	ECS shall generate and make available to the users Level 4 Standard Products within one week after the availability to ECS of all necessary Level 3 and other input data sets.
			EOSD1070#A	ECS shall generate and make available to the users Level 3 Standard Products within 24 hours after the availability to ECS of all necessary Level 2 and other input data sets.
			EOSD1060#A	ECS shall generate and make available to the users Level 2 Standard Products within 24 hours after the availability to ECS of all necessary Level 1 and other input data sets.
			EOSD1050#B	ECS shall generate and make available to the users Level 1 Standard Products within 24 hours after the availability to ECS of all necessary input data sets.
			EOSD1080#B	ECS shall generate and make available to the users Level 4 Standard Products within one week after the availability to ECS of all necessary Level 3 and other input data sets.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			EOSD1720#B	ECS elements shall receive from the ECS user community the following types of data requests at a minimum: a. Data Acquisition Requests b. Data Distribution Requests c. Reprocessing Requests
			EOSD1070#B	ECS shall generate and make available to the users Level 3 Standard Products within 24 hours after the availability to ECS of all necessary Level 2 and other input data sets.
			EOSD1060#B	ECS shall generate and make available to the users Level 2 Standard Products within 24 hours after the availability to ECS of all necessary Level 1 and other input data sets.
S-PLS-00020	A	The PLANG CI shall generate Data Processing Requests from Production Requests.	PGS-0470#B	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.
			PGS-0220#A	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0230#A	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0470#A	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0240#B	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
			PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0240#A	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
S-PLS-00040	A	The PLANG CI shall reject a Production Request if an invalid product identifier has been specified.	PGS-0160#A	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0500#A	The PGS shall have the capability to generate Level 1 through 4 Standard Products using validated algorithms and calibration coefficients provided by the scientists.
			PGS-0500#B	The PGS shall have the capability to generate Level 1 through 4 Standard Products using validated algorithms and calibration coefficients provided by the scientists.
S-PLS-00050	A	The PLANG CI shall reject a Production Request if an unauthorized User Identifier is specified.	EOSD2400#B	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
			EOSD2400#A	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
			PGS-0160#A	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
S-PLS-00060	A	The PLANG CI shall support the capability to display a response message to the operations staff, indicating the acceptance / rejection status of Production Requests and the reasons for rejection (if applicable).	PGS-0285#A	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0285#B	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
S-PLS-00070	B	The PLANG CI shall accept Production Requests for reprocessing of Data Products from currently available input data.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0240#B	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
			PGS-0165#B	The PGS shall accept priority processing requests from the IMS.
			PGS-0540#B	The PGS shall reprocess specified science data using original or updated algorithms provided by the scientists.
			PGS-0550#B	The PGS shall reprocess science data using the original or updated (provided by the scientists) calibration coefficients.
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			EOSD1720#B	ECS elements shall receive from the ECS user community the following types of data requests at a minimum: a. Data Acquisition Requests b. Data Distribution Requests c. Reprocessing Requests
			SCF-0270#B	The ECS shall have the capability to receive a Reprocessing Request from the SCF. This request, at a minimum, contains the following, a list of all the products to be generated, the version numbers of the science software and calibration coefficients, a list of all ancillary data, and data start and stop times.
S-PLS-00100	B	The PLANG CI shall accept Production Requests for On-Demand Data Products.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0165#B	The PGS shall accept priority processing requests from the IMS.
			SDPS0026#B	The SDPS shall provide the capability for performing dataset specific data transformations.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00110	B	The PLANG CI shall reject a Production Request for On-Demand Data Products if the processing completion deadline (specified in the Production Request) cannot be met.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0165#B	The PGS shall accept priority processing requests from the IMS.
S-PLS-00120	B	The PLANG CI shall validate Production Requests for On-Demand Data Products against a pre-approved list of acceptance criteria.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0165#B	The PGS shall accept priority processing requests from the IMS.
S-PLS-00130	B	The PLANG CI shall send a response message to the Data Server confirming the acceptance status of the received Production Request for On-Demand Data Products (" accepted", "rejected", "deferred") and reason for rejection of a request (if applicable).	PGS-0285#B	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
			IMS-1010#B	The IMS shall accept from the PGS a processing status message to confirm or reject a processing order, which shall contain the following information at a minimum: a. Requester identification b. Request identification c. Request status d. If rejection, then the reason for the rejection e. If delayed longer than latest completion time specified by user, adjusted start and completion times.
S-PLS-00140	B	Upon acceptance of a Production Request for an On-Demand Data Product, the PLANG CI shall immediately forward its corresponding Data Processing Requests to the PRONG CI if predefined resource thresholds are not exceeded and if the input data is available.	PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
S-PLS-00150	B	The PLANG CI shall defer On-Demand Production Requests for future plan generation consideration when these On-Demand Production Requests are estimated to exceed a predefined resource threshold.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00160	B	If a Production Request for an On-Demand Data Product exceeds a predefined resource usage threshold, the PLANG CI shall notify the operations staff that the Production Request has been deferred.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
S-PLS-00165	B	The PLANG CI shall allow the operator to specify the resource usage thresholds used to accept or defer On-Demand Production Requests.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
S-PLS-00170	B	The PLANG CI shall accept updates (modifications/ cancellations) to Production Requests for On-Demand Data Products.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
S-PLS-00180	A	The PLANG CI shall validate updates (modifications / cancellations) to existing Production Requests.	PGS-0160#A	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
S-PLS-00190	B	The PLANG CI shall forward a response message to the Data Server indicating acceptance / rejection status of the updates to the Production Request for On-Demand Data Products .	PGS-0285#B	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
S-PLS-00200	A	The PLANG CI shall accept updates (modifications / cancellations) to Production Requests entered by the operations staff.	PGS-0160#A	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
S-PLS-00220	A	The PLANG CI shall support the display of a response message to the operations staff, indicating the acceptance /rejection status of updates to a Production Request.	PGS-0285#A	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
S-PLS-00230	B	The PLANG CI shall provide production rules (via GUI) to break up large reprocessing Production Requests.	PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
S-PLS-00260	A	For each Production Request being processed, the PLANG CI shall interact with the appropriate instance of the SDSRV CI to determine whether the Granules needed to satisfy the request exist.	PGS-0190#A	The PGS shall coordinate with the DADS on the staging of data for product generation.
			PGS-0520#A	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.
			PGS-0190#B	The PGS shall coordinate with the DADS on the staging of data for product generation.
			PGS-0458#B	The PGS shall use configuration-controlled calibration coefficients and selected engineering data to generate calibrated ancillary data products necessary as input to the generation of Level 1 Standard Products in a timeframe that assures that production schedules for all products can be met.
			PGS-0520#B	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.
S-PLS-00300	A	The PLANG CI shall accept ground events to describe the allocation of data processing resources to non-production tasks.	SMC-1310#A	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.
			SMC-1310#B	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.
S-PLS-00310	A	The PLANG CI specification of ground events shall include priorities, dependencies, and estimated duration.	SMC-1320#B	The SMC shall support and maintain priorities used in scheduling ground events.
			SMC-1345#B	The LSM shall perform priority management services to resolve conflicts for ECS resources.
			SMC-1320#A	The SMC shall support and maintain priorities used in scheduling ground events.
			SMC-1345#A	The LSM shall perform priority management services to resolve conflicts for ECS resources.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00400	A	The PLANG CI shall maintain Product Generation Executives (PGEs) information that identifies the Science Software, the order of execution, the conditions for execution, the processing environment, and the input / output data types and locations.	PGS-0458#B	The PGS shall use configuration-controlled calibration coefficients and selected engineering data to generate calibrated ancillary data products necessary as input to the generation of Level 1 Standard Products in a timeframe that assures that production schedules for all products can be met.
			PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
S-PLS-00405	B	The PLANG CI shall allow the conditions for execution of Product Generation Executives (PGEs) to include intermediate results such as metadata fields of input data.	PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00407	B	The PLANG CI shall maintain Product Generation Executives (PGEs) information necessary to support the production of tile or spatial-based output Granules.	PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
S-PLS-00410	A	The PLANG CI shall support the capability to display (via GUI) a list of PGEs maintained in its PGE information database.	PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
S-PLS-00420	A	The PLANG CI shall support the capability to browse (via GUI) the information maintained on a specific PGE.	PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
S-PLS-00430	A	The PLANG CI shall support the capability to (a) allow (authorized) operations staff updates (enter / modify / delete) of PGE information in the Planning PGE information database, (b) maintain a record of updates made.	EOSD2400#B	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
			PGS-0140#A	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0140#B	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0930#A	The PGS shall have the capability to transfer validated algorithm software and calibration coefficients from the test environment to the operational environment to be used in the production of Standard Products.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			EOSD2400#A	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
			PGS-0930#B	The PGS shall have the capability to transfer validated algorithm software and calibration coefficients from the test environment to the operational environment to be used in the production of Standard Products.
S-PLS-00440	A	The PLANG CI shall maintain Production Rules that define the production strategy (rules defining production priorities and preferences) to be used when preparing a Production Plan.	PGS-0170#A	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives.
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0170#B	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives from the SMC.
			PGS-0230#A	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00445	B	The PLANG CI shall maintain multiple Production Strategies defined by sets of Production Rules to be used when preparing a Production Plan.	PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
S-PLS-00450	A	The PLANG CI shall support the capability that allows the operations staff to update (enter/ modify/ delete) the Production Rules (via GUI).	PGS-0140#A	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0140#B	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0230#A	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
S-PLS-00455	B	The PLANG CI shall support the capability that allows the operations staff to update (enter/ modify/ delete) the Production Strategies (via GUI).	PGS-0140#B	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00457	B	The PLANG CI GUI shall conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	IMS-1380#B	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
S-PLS-00458	B	To the extent possible, the PLANG CI COTS GUI shall be configured to conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	IMS-1380#B	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
S-PLS-00460	A	The PLANG CI shall maintain lists of Granules needed to satisfy Production Requests.	PGS-0520#A	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.
			PGS-0458#B	The PGS shall use configuration-controlled calibration coefficients and selected engineering data to generate calibrated ancillary data products necessary as input to the generation of Level 1 Standard Products in a timeframe that assures that production schedules for all products can be met.
			PGS-0520#B	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.
S-PLS-00465	B	The PLANG shall maintain lists of input Granules in order to support the production of tile or spatial-based output Granules	PGS-0190#B	The PGS shall coordinate with the DADS on the staging of data for product generation.
			PGS-0520#B	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.
S-PLS-00470	A	The PLANG CI shall maintain information on the following: a. current processing status of all Production Requests received, b. current processing status of all Data Processing Requests generated, c. detected processing fault data.	PGS-0325#A	The PGS shall provide the SMC with scheduling and status information.
			PGS-0370#A	The PGS shall utilize the LSM to generate a PGS resource utilization report.
			PGS-0360#A	The PGS shall generate a PGS processing log that accounts for all data processing activities.
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0370#B	The PGS shall utilize the LSM to generate a PGS resource utilization report.
			PGS-0360#B	The PGS shall generate a PGS processing log that accounts for all data processing activities.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0340#B	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0325#B	The PGS shall provide the SMC with scheduling and status information.
			PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0340#A	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
S-PLS-00475	A	The PLANG CI shall maintain information on all Candidate and Active Plans generated.	PGS-0180#A	The PGS shall receive a notice from DADS when data that it has received is available.
			PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0380#A	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-0180#B	The PGS shall receive a notice from DADS when data that it has received is available.
			PGS-0220#A	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00490	A	The PLANG CI shall maintain Planning system fault data using fault isolation tools provided by the LSM.	PGS-0340#A	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0340#B	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0350#B	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
			PGS-0350#A	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
S-PLS-00604	B	The PLANG CI shall receive advertisements from the IOS.	IMS-0550#B	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
S-PLS-00606	B	The PLANG CI shall send advertisement subscriptions to the IOS.	IMS-0550#B	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
S-PLS-00611	B	The operations staff shall manually submit (to the Data Server) Data Subscriptions for the Data Availability Schedules (DAS) of any remote ECS sites, any IP and any ODC that makes a DAS available	PGS-0190#B	The PGS shall coordinate with the DADS on the staging of data for product generation.
			DADS2020#B	Each DADS shall have the capability to receive data availability schedules at a minimum, from: a. b. IPs c. ADCs d. ODCs e. Other DADS f. TRMM (SDPF)
S-PLS-00615	B	The operations staff shall manually submit (to the Data Server) Data Subscriptions for FOS plans and schedules.		

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00631	B	The PLANG CI shall receive Data Availability Schedule Notices indicating arrival of Data Availability Schedules (DAS) for any remote ECS site, any IP, and any ODC that makes a Data Availability Schedules available.	PGS-0150#B	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.
			PGS-0180#B	The PGS shall receive a notice from DADS when data that it has received is available.
S-PLS-00635	B	The PLANG CI shall receive Data Availability Schedule Notices indicating arrival of FOS plans and schedules		
S-PLS-00651	B	The PLANG CI shall accept Data Availability Schedules (DAS), for remote ECS sites, IPs, and ODCs, based on the Data Availability Schedule Notices received.	PGS-0150#B	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.
S-PLS-00652	B	The PLANG CI shall support the capability to retrieve FOS plans and schedules from the Data Server.		
S-PLS-00654	B	The PLANG CI shall create a Data Availability Schedule (DAS) for EDOS based on FOS plans and schedules.		
S-PLS-00656	B	The PLANG CI shall send a response message to Data Server upon receiving FOS plan and schedule, confirming the receiving of the data		
S-PLS-00665	B	The PLANG CI shall notify the operations staff (via GUI), about the arrival of any Data Availability Schedule Notice corresponding to a DAS.	PGS-0150#B	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.
			DADS2020#B	Each DADS shall have the capability to receive data availability schedules at a minimum, from: a. b. IPs c. ADCs d. ODCs e. Other DADS f. TRMM (SDPF)
			PGS-0180#B	The PGS shall receive a notice from DADS when data that it has received is available.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00670	A	The PLANG CI shall provide (to the operations staff) the capability to enter, via GUI, "plan creation requests" that initiate creation of Candidate Plans.	PGS-0140#A	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0140#B	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
S-PLS-00680	A	The PLANG CI shall provide the capability to generate multiple Candidate Plans.	PGS-0140#A	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0140#B	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
S-PLS-00690	A	The PLANG CI shall create a Candidate Plan specifying a timeline for PGE execution that will satisfy Production Requests for Standard Products.	PGS-0220#A	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0230#A	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
S-PLS-00700	B	The PLANG CI shall create a Candidate Plan specifying a timeline for PGE execution that will satisfy Production Requests for Reprocessing and On-Demand Data Products.	PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
S-PLS-00710	A	The PLANG CI shall create a Candidate Plan based on the following: 1. Outstanding production requests, their priorities and estimated runtimes, 2. Ground events, their priority and estimated duration, 3. Planning production rules, 4. Mutual PGE accessibility of shared data, 5. Completion notification status messages from Data Processing.	PGS-0220#A	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			PGS-0230#A	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0240#A	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
			PGS-0270#B	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0240#B	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
			PGS-0230#B	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
			PGS-0220#B	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
			SMC-1345#A	The LSM shall perform priority management services to resolve conflicts for ECS resources.
			PGS-0560#A	The PGS shall maintain copies of generated products to be used as inputs to other scheduled products for processing efficiency.
			PGS-0480#A	The PGS shall have the capability to perform all its processing based on priority.
			PGS-0470#A	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.
			PGS-0270#A	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0470#B	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.
			SMC-1345#B	The LSM shall perform priority management services to resolve conflicts for ECS resources.
			PGS-0480#B	The PGS shall have the capability to perform all its processing based on priority.
			PGS-0560#B	The PGS shall maintain copies of generated products to be used as inputs to other scheduled products for processing efficiency.
			PGS-0260#A	The PGS shall schedule other functions, including, at a minimum: a. File backups b. File maintenance c. Calibration data handling
			PGS-0260#B	The PGS shall schedule other functions, including, at a minimum: a. File backups b. File maintenance c. Calibration data handling
S-PLS-00720	B	The PLANG CI shall create a Candidate Plan based on the data availability schedules for remote ECS sites, EDOS, the IPs, and ODCs, as needed.	PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0150#B	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.
S-PLS-00730	A	The PLANG CI shall have the capability to plan algorithm and calibration coefficient test time in the test environment.	PGS-0860#A	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.
			SDPS0140#A	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			PGS-0860#B	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.
			SDPS0140#B	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
S-PLS-00740	A	The PLANG CI shall have the capability to schedule algorithm test Data Processing Requests that do not interfere with the operational production environment.	PGS-0870#A	The PGS shall have the capability to schedule algorithm test resources that do not interfere with the operational.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			SDPS0140#A	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
S-PLS-00741	B	The PLANG CI shall seperate AI&T activities from the operational production environment.	PGS-0870#B	The PGS shall have the capability to schedule algorithm test resources that do not interfere with the operational production environment.
S-PLS-00760	A	The PLANG CI shall send electronic copies of the Candidate Plans and corresponding metadata to the designated local Data Server for storage and distribution.	PGS-0290#A	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.
			PGS-0290#B	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.
S-PLS-00770	A	The PLANG CI shall provide (to the operations staff) the capability to enter, via GUI, a "Plan cancellation" request, indicating cancellation of the currently Active Plan.	PGS-0270#A	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
			PGS-0270#B	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
S-PLS-00780	A	The PLANG CI shall generate Data Processing Request cancellations against previously submitted Data Processing Requests (if so directed by the operations staff), or upon activation of a new plan that no longer requires those requests.	PGS-0270#A	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
			PGS-0270#B	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00790	A	The PLANG CI shall send a Data Processing Request cancellation to the instance of the PRONG CI that received the original Data Processing Request.	PGS-0270#A	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
			PGS-0270#B	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
S-PLS-00800	A	The PLANG CI shall provide to the operations staff the capability to enter, via GUI, a "plan activation request" that identifies which Candidate Plan is to be activated.	PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0300#B	The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-0300#A	The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.
S-PLS-00811	B	The PLANG CI shall reconcile any outstanding Data Processing Requests in the current Active Plan with the Data Processing Requests in the Candidate Plan to be activated.	PGS-0300#B	The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00825	A | B	The PLANG CI shall have the capability to identify all available input data (as specified in the Active Plan) that is currently awaiting quality assurance information.	PGS-1175#B	The PGS shall maintain a list of products requiring QA by SCF or the PGS.
S-PLS-00827	A | B	The PLANG CI shall update the quality assurance status of input data (if applicable) to reflect an expired QA timeout period if its quality assurance information has not been received within specified time periods.	PGS-1170#B	The PGS shall have the capability to identify data products awaiting QA that have not been reviewed within the amount of time allocated for QA.
			PGS-1180#B	The PGS shall have the capability to update the processing status of a given product as a result of a QA timeout.
S-PLS-00830	A	The PLANG CI shall send Data Processing Requests (specified in an Active Plan) to a processing resource that can perform the processing, if the following applies: a. All required input data (including metadata) is available b. Its input data has passed quality assurance (if applicable)	PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-1100#A	The PGS shall have the capability to accept product quality data input.
			PGS-0250#B	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
			PGS-1100#B	The PGS shall have the capability to accept product quality data input.
			PGS-1170#B	The PGS shall have the capability to identify data products awaiting QA that have not been reviewed within the amount of time allocated for QA.
S-PLS-00840	A	The PLANG CI shall send electronic copies of the Active Plan and corresponding metadata to the designated local Data Server for storage and distribution.	PGS-0290#A	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.
			PGS-0290#B	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-00845	B	The PLANG CI shall support the capability to retrieve stored plans and their corresponding metadata from the Data Server based on specific queries.	PGS-0290#B	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.
S-PLS-00850	B	The PLANG CI shall have the capability to generate data availability schedules (and the corresponding metadata) that reflect the Data Products expected to be generated in the Production Plan.	PGS-0150#B	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.
S-PLS-00860	B	The PLANG CI shall send the data availability schedules and the corresponding metadata to the designated Data Server.	PGS-0150#B	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.
S-PLS-00870	A	The operations staff shall manually submit Data Subscriptions for PGE input data to the appropriate Data Servers.	DADS0540#A	Each DADS shall notify the PGS of the receipt of non-EOS data sets required for Standard Product production.
			PGS-0190#A	The PGS shall coordinate with the DADS on the staging of data for product generation.
			PGS-0190#B	The PGS shall coordinate with the DADS on the staging of data for product generation.
			DADS0550#A	Each DADS shall notify the PGS of the receipt of EOS data sets required for Standard Product production (e.g., data received from non-collocated DADS).
			DADS0540#B	Each DADS shall notify the PGS of the receipt of non-EOS data sets required for Standard Product production.
			DADS0550#B	Each DADS shall notify the PGS of the receipt of EOS data sets required for Standard Product production (e.g., data received from non-collocated DADS).
S-PLS-00872	A	The operations staff shall manually submit Data Subscriptions for L0 data to the Ingest Subsystem.	PGS-0190#A	The PGS shall coordinate with the DADS on the staging of data for product generation.
			PGS-0190#B	The PGS shall coordinate with the DADS on the staging of data for product generation.
S-PLS-00875	A	The PLANG CI shall receive Subscription Notices indicating availability of subscribed data.	DADS0540#A	Each DADS shall notify the PGS of the receipt of non-EOS data sets required for Standard Product production.
			PGS-0180#B	The PGS shall receive a notice from DADS when data that it has received is available.
			PGS-0180#A	The PGS shall receive a notice from DADS when data that it has received is available.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			DADS0550#A	Each DADS shall notify the PGS of the receipt of EOS data sets required for Standard Product production (e.g., data received from non-collocated DADS).
			PGS-1130#B	The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions
			DADS0540#B	Each DADS shall notify the PGS of the receipt of non-EOS data sets required for Standard Product production.
			DADS0550#B	Each DADS shall notify the PGS of the receipt of EOS data sets required for Standard Product production (e.g., data received from non-collocated DADS).
S-PLS-00880	A	The operations staff shall manually cancel Data Subscriptions for input data to PGEs that are no longer used, once they determine that the input data is not required by any other PGE.	PGS-0190#A	The PGS shall coordinate with the DADS on the staging of data for product generation.
			PGS-0190#B	The PGS shall coordinate with the DADS on the staging of data for product generation.
S-PLS-01000	A	The PLANG CI shall receive a Data Processing Request Response message, acknowledging acceptance of the Data Processing Request forwarded to the PRONG CI.	PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
S-PLS-01010	A	The PLANG CI shall receive "Complete Notification" status messages, indicating the completion status of Data Processing Requests.	PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
S-PLS-01020	A	The PLANG CI shall receive responses to Data Processing Request cancellations indicating the completion status of the cancellation requests.	PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-01030	A	The PLANG CI shall update the Active Plan with the current processing status of each Data Processing Request listed.	PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
S-PLS-01040	A	The PLANG CI shall send the current processing status of Production Requests (for On-Demand Data Products) to the originating Data Server.	PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
S-PLS-01200	A	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.	PGS-0140#A	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0380#A	The PGS shall monitor its internal operations and generate a status report periodically and on request.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0285#A	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
			PGS-0210#A	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0140#B	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
			PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0210#B	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			SMC-1630#B	The SMC shall confirm that the coordinated schedule is implemented and monitor product generation and data transfers for compliance with the coordinated schedule.
			SMC-1310#A	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.
			PGS-0160#A	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			SMC-0320#B	The SMC shall be capable of scheduling ground activities to a minimum of one minute resolution.
			SMC-1310#B	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-01210	B	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry/query/update/ cancellation of Production Requests for Reprocessing, b. Query/update/cancellation of Production Requests for On-Demand Data Products.	PGS-0160#B	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-0285#B	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
S-PLS-01220	A	The PLANG CI shall have the capability to accept a request from the operations staff for scheduling algorithm and calibration coefficient test time in the test environment.	PGS-0860#A	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.
			SDPS0140#A	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			PGS-0860#B	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.
			SDPS0140#B	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
S-PLS-01230	B	The PLANG CI shall support the display (via GUI) of warning messages to the operations staff indicating revised completion times if processing will not complete per original schedule.	PGS-0295#B	The PGS shall transmit a status message notifying the IMS of a revised completion time if processing will not complete per original schedule.
S-PLS-01240	A	The PLANG CI shall support the display (via GUI) of Planning hardware and software detected faults to the operations staff.	PGS-0320#A	The PGS shall display detected faults to the system operators.
			PGS-0320#B	The PGS shall display detected faults to the system operators.
S-PLS-01245	A	The PLANG CI shall provide capability to make available (for review by all affected instrument teams) information related to product generation delays and production faults.	PGS-0410#A	The PGS shall have the capability to track the processing status of all products scheduled to be generated.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0410#B	The PGS shall have the capability to track the processing status of all products scheduled to be generated.
S-PLS-01250	A	The PLANG CI shall record detected hardware and software errors in a Planning processing log.	PGS-0360#A	The PGS shall generate a PGS processing log that accounts for all data processing activities.
			PGS-0360#B	The PGS shall generate a PGS processing log that accounts for all data processing activities.
S-PLS-01260	A	The PLANG CI shall support the capability to generate Planning processing log reports (periodically and on request) for a specified time period.	PGS-0360#A	The PGS shall generate a PGS processing log that accounts for all data processing activities.
			PGS-0360#B	The PGS shall generate a PGS processing log that accounts for all data processing activities.
S-PLS-01270	A	The PLANG CI shall support the generation of Data Processing Request Status reports (upon request) that will provide Data Processing Request information based on the report generation parameters and the time period specified.	PGS-0380#A	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-1190#A	The PGS shall have the capability to log the identification of all non-stored products or suspended processing directed by the data product quality staff to support the maintenance of performance statistics.
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-1190#B	The PGS shall have the capability to log the identification of all non-stored products or suspended processing directed by the data product quality staff to support the maintenance of performance statistics.
S-PLS-01280	A	The PLANG CI shall support the generation of Production Request Status reports (upon request) that will provide Production Request information based on the report generation parameters and the time period specified.	PGS-0380#A	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.
S-PLS-01290	A	The PLANG CI shall support the generation of resource utilization reports (periodically and on request).	PGS-0370#A	The PGS shall utilize the LSM to generate a PGS resource utilization report.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0370#B	The PGS shall utilize the LSM to generate a PGS resource utilization report.
S-PLS-01300	A	The PLANG CI shall support the capability to generate PLANG CI processing workload and processing turnaround time reports (periodically and on request).	PGS-0380#A	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.
S-PLS-01320	A	The PLANG CI shall make all reports generated available for review.	PGS-0380#A	The PGS shall monitor its internal operations and generate a status report periodically and on request.
			PGS-0380#B	The PGS shall monitor its internal operations and generate a status report periodically and on request.
S-PLS-01330	A	The PLANG CI shall restrict the functions available to operators depending on operations role, (e.g., to permit the resource manager role to enter ground events, but to restrict that role from being able to enter production requests).	SMC-5300#A	The SMC shall, in conjunction with sites and elements, establish, support, maintain, and update security policies and procedures to include, at a minimum: a. Physical security b. Password management c. Operational security d. Data security e. Privileges f. Network security g. Compromise mitigation
			SMC-5300#B	The SMC shall, in conjunction with sites and elements, establish, support, maintain, and update security policies and procedures to include, at a minimum: a. Physical security b. Password management c. Operational security d. Data security e. Privileges f. Network security g. Compromise mitigation
S-PLS-01400	A	The PLANG CI shall accept the fault isolation tools for the PLANG CI.	PGS-0340#A	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0350#A	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
			PGS-0340#B	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0350#B	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-01410	A	The PLANG CI shall forward faults detected in the Planning system to MSS.	PGS-0330#A	The PGS shall report detected processing system faults to the SMC.
			PGS-0330#B	The PGS shall report detected processing system faults to the SMC.
S-PLS-01430	A	The PLANG CI shall send to MSS product scheduling, processing status and data quality information.	SDPS0010#A	The SDPS shall provide CSMS with operational, data processing, and data quality.
			PGS-0325#B	The PGS shall provide the SMC with scheduling and status information.
			PGS-0325#A	The PGS shall provide the SMC with scheduling and status information.
			SDPS0010#B	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.
S-PLS-01440	A	The PLANG CI shall collect Fault Management Data and provide it to the MSS.	SDPS0010#B	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.
			SDPS0010#A	The SDPS shall provide CSMS with operational, data processing, and data quality.
			PGS-0350#B	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
			PGS-0340#B	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0330#B	The PGS shall report detected processing system faults to the SMC.
			PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			PGS-0350#A	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
			PGS-0340#A	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
			PGS-0330#A	The PGS shall report detected processing system faults to the SMC.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
S-PLS-01450	A	The PLANG CI shall collect Configuration Management Data and provide it to the MSS.	PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
S-PLS-01460	B	The PLANG CI shall collect Accounting Management Data and provide it to the MSS.	PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			SDPS0010#B	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-01470	A	The PLANG CI shall collect Accountability Management Data and provide it to the MSS.	PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
S-PLS-01480	A	The PLANG CI shall collect Performance Management Data and provide it to the MSS.	PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			PGS-0420#A	The PGS shall provide tools to analyze system performance.
			PGS-0420#B	The PGS shall provide tools to analyze system performance.
			PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-01490	A	The PLANG CI shall collect Security Management Data and provide it to the MSS.	PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
S-PLS-01500	A	The PLANG CI shall collect Scheduling Management Data and provide it to the MSS.	PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			PGS-0310#B	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-01600	A	The PLANG CI design and implementation shall have the flexibility to accommodate Planning expansion up to a factor of 3 in its capacity with no changes to its design, and up to a factor of 10 without major changes to its design. Such expansion in capacity or capability shall be transparent to existing algorithms or product specifications.	PGS-1270#A	The PGS design and implementation shall have the flexibility to accommodate PGS expansion up to a factor of 3 in the processing capacity with no changes to the processing design, and up to a factor of 10 without major changes to the processing design. Such expansion in capacity or capability shall be transparent to existing algorithms or product specifications. This requirement shall apply to the system at all phases of contract performance, including the final system which accommodates the product growth specified in Appendix C, as well as the at-launch system.
			EOSD0545#A	ECS shall be able to accommodate growth (e.g., capacity) in all of its functions as well as the addition of new functions.
			PGS-1270#B	The PGS design and implementation shall have the flexibility to accommodate PGS expansion up to a factor of 3 in the processing capacity with no changes to the processing design, and up to a factor of 10 without major changes to the processing design. Such expansion in capacity or capability shall be transparent to existing algorithms or product specifications. This requirement shall apply to the system at all phases of contract performance, including the final system which accommodates the product growth specified in Appendix C, as well as the at-launch system.
S-PLS-01610	A	The PLANG CI shall be developed with configuration controlled APIs that will be capable of supporting development and integration of new algorithms developed at DAAC to support DAAC value-added production.	EOSD0502#B	ECS shall provide an integrated set of toolkits consisting of software tools for each ECS element.
			EOSD5250#B	ECS shall enable access to configuration controlled applications programming interfaces that permit development of DAAC-unique value added services and products where DAAC-unique value added services may consist of one or more of the following types of developments: a. Visualization utilities and products b. Data sets and inter-data set usability utilities and products c. Data analysis utilities d. Special subsetting capabilities (e.g. dynamic) e. On-line analysis functions f. New search and access techniques g. Data acquisition planning and utilities h. Experimental QA techniques i. Non-digital data utilities and products j. System Management Functions
			EOSD0502#A	ECS shall provide an integrated set of toolkits consisting of software tools for each ECS element.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			PGS-1400#B	The PGS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development and integration of new algorithms developed at each DAAC to support DAAC value-added production.
			EOSD5250#A	ECS shall enable access to configuration controlled applications programming interfaces that permit development of DAAC-unique value added services and products where DAAC-unique value added services may consist of one or more of the following types of developments: a. Visualization utilities and products b. Data sets and inter-data set usability utilities and products c. Data analysis utilities d. Special subsetting capabilities (e.g. dynamic) e. On-line analysis functions f. New search and access techniques g. Data acquisition planning and utilities h. Experimental QA techniques i. Non-digital data utilities and products j. System Management Functions
			PGS-1400#A	The PGS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development and integration of new algorithms developed at each DAAC to support DAAC value-added production.
			EOSD5110#A	ECS shall enable the separate use of data management, data processing, or data archive and distribution software components by a GCDIS data center. The GCDIS data centers will have full responsibility for integration of those components within their environment. Interfaces between the components must be developed to serve the mission of EOSDIS, but be made available for a GCDIS data center.
			EOSD5110#B	ECS shall enable the separate use of data management, data processing, or data archive and distribution software components by a GCDIS data center. The GCDIS data centers will have full responsibility for integration of those components within their environment. Interfaces between the components must be developed to serve the mission of EOSDIS, but be made available for a GCDIS data center.
S-PLS-02000	B	The PLANG CI shall be able to accept scheduling information on external events which affect processing resources and operations	SMC-1500#B	The SMC shall perform schedule conflict analysis and resolution services in response to a schedule conflict involving sites, ECS elements, or external elements, agencies, or organizations, except for conflicts associated with flight operations.
S-PLS-02010	B	The PLANG CI shall identify scheduling conflicts.	SMC-1500#B	The SMC shall perform schedule conflict analysis and resolution services in response to a schedule conflict involving sites, ECS elements, or external elements, agencies, or organizations, except for conflicts associated with flight operations.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-02020	B	The PLANG CI shall be able to provide operations personnel priorities and planned execution times of jobs causing scheduling conflicts within and between DAACs.	SMC-1500#B	The SMC shall perform schedule conflict analysis and resolution services in response to a schedule conflict involving sites, ECS elements, or external elements, agencies, or organizations, except for conflicts associated with flight operations.
S-PLS-02030	B	The PLANG CI shall identify conflicts in plans caused by cross-DAAC data dependencies.	SMC-1600#B	The SMC shall receive product generation schedules from the DAACs and analyze the schedules for cross-DAAC dependencies (e.g., inputs that must be generated and provided by one DAAC before a product can be generated at another DAAC).
S-PLS-02040	B	The PLANG CI shall be able to display (via GUI) cross-DAAC data dependencies.	SMC-1600#B	The SMC shall receive product generation schedules from the DAACs and analyze the schedules for cross-DAAC dependencies (e.g., inputs that must be generated and provided by one DAAC before a product can be generated at another DAAC).
S-PLS-02050	B	The PLANG CI shall be able to provide plans to PLANG CIs at other sites.	SMC-1600#B	The SMC shall receive product generation schedules from the DAACs and analyze the schedules for cross-DAAC dependencies (e.g., inputs that must be generated and provided by one DAAC before a product can be generated at another DAAC).
			SMC-1620#B	The SMC shall transmit the recommended schedules back to the DAACs for consideration, iterate with the DAACs as required, and develop a coordinated schedule for implementation.
			DADS1950#B	Each DADS shall access, via the system database at the SMC, the allocation of ground event functions and capabilities to each site/element.
			DADS1960#B	Each DADS shall access, from the SMC via the system database, the priorities used in scheduling ground events.
S-PLS-02060	B	The PLANG CI shall be able to account for cross-DAAC data dependencies in the plans it generates.	SMC-1610#B	The SMC shall recommend adjustments in the product generation schedules to ensure that product generation functions and the DAAC-to-DAAC data transfers required, are accomplished in accordance with overall mission requirements (e.g., without the development of a product generation backlog at any DAAC).
S-PLS-02070	B	The PLANG CI shall be able to integrate multiple DAAC plans to produce a coordinated plan.	SMC-1620#B	The SMC shall transmit the recommended schedules back to the DAACs for consideration, iterate with the DAACs as required, and develop a coordinated schedule for implementation.
S-PLS-02080	B	The PLANG CI shall provide the operations and management staff at a site the ability to send routine scheduling information to other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-02090	B	The PLANG CI shall able to receive routine scheduling information from other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02100	B	The PLANG CI shall provide the operations and management staff at a site the ability to send scheduling request information to other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02110	B	The PLANG CI shall able to receive scheduling request information from other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02120	B	The PLANG CI shall provide the operations and management staff at a site the ability to send schedule conflict alert information to other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02130	B	The PLANG CI shall able to receive schedule conflict alert information from other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02140	B	The PLANG CI shall provide the operations and management staff at a site the ability to send emergency scheduling information to other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-02150	B	The PLANG CI shall able to receive emergency scheduling information from other sites.	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02160	B	The PLANG CI shall be able to send routine scheduling information to other sites	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02170	B	The PLANG CI shall be able to send scheduling request information to other sites	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02180	B	The PLANG CI shall be able to send schedule conflict alert information to other sites	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02190	B	The PLANG CI shall be able to send emergency scheduling information to other sites	SMC-1325#B	The LSM shall provide the operations and management staff at a site or element the capability to communicate scheduling information to and receive scheduling information from the SMC, including, at a minimum: a. Routine scheduling information b. Request scheduling information c. Schedule conflict alert information d. Emergency scheduling information.
S-PLS-02200	B	The PLANG CI shall have the capability to automatically extract pertinent scheduling information based on operator supplied criteria.	SMC-1335#B	The LSM shall have the capability to automatically extract, process, and send to the SMC, pertinent scheduling information.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-60010	A	The PLNHW CI shall support the hardware resource requirements of the PLANG CI and its interface requirements with the operations staff performing planning functions.	EOSD0500#B	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling b. EOS Mission Operations c. Command and Control d. Communications and Networking e. Data Input f. Data Processing g. Data Storage h. Data Distribution i. Information Management j. End-to-End Fault Management k. System Management
S-PLS-60200	A	The maximum down time of the PLNHW CI shall not exceed twice the required MDT in 99 percent of failure occurrences.	EOSD3630#A	The maximum down time shall not exceed twice the required MDT in 99 percent of failure occurrences.
			EOSD3630#B	The maximum down time shall not exceed twice the required MDT in 99 percent of failure occurrences.
S-PLS-60320	A	The PLNHW CI shall support transactions per day, as specified for each release and corresponding DAAC sites in Appendix E, Table E-1 of the current version of 304-CD-002 for Release A and Table E-1 of Appendix E of the current version of 304-CD-005 for Release B.	EOSD1010#B	ECS shall support daily data volume, processing load, storage volume, instrument support, and data traffic as derivable from and specified in Appendix C and D.
			EOSD1010#A	ECS shall support daily data volume, processing load, storage volume, instrument support, and data traffic as derivable from and specified in Appendix C and D.
S-PLS-60330	A	The PLNHW CI shall provide local storage in support of the DAAC-specific requirements as specified in Appendix E, Table E-9 of the current version of 304-CD-005.	EOSD1010#A	ECS shall support daily data volume, processing load, storage volume, instrument support, and data traffic as derivable from and specified in Appendix C and D.
			EOSD1010#B	ECS shall support daily data volume, processing load, storage volume, instrument support, and data traffic as derivable from and specified in Appendix C and D.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-60380	A	The PLNHW CI design and implementation shall have the flexibility to accommodate planning workload expansion up to a factor of 3 in its capacity with no changes in its design and up to a factor of 10 without major changes to its design.	EOSD0545#A	ECS shall be able to accommodate growth (e.g., capacity) in all of its functions as well as the addition ofnew functions.
S-PLS-60410	A	The PLNHW CI shall be capable of operating in a 24 hour per day, 7 days a week mode.	SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-PLS-60420	A	PLNHW CI functions shall have an operational availability of .96 as a minimum and Mean Down Time of < 4 hours during times of staffed operations.	EOSD3700#B	ECS functions shall have an operational availability of 0.96 at a minimum (.998 design goal) and an MDT of four (4) hours or less (1.5 hour design goal), unless otherwise specified. The above requirement covers equipment including: a. "Non-critical" equipment configured with the critical equipment supporting the functional capabilities in the requirements. b. Equipment providing other functionality not explicitly stated in the RMA requirements that follow.
			EOSD3700#A	ECS functions shall have an operational availability of 0.96 at a minimum (.998 design goal) and an MDT of four (4) hours or less (1.5 hour design goal), unless otherwise specified. The above requirement covers equipment including: a. "Non-critical" equipment configured with the critical equipment supporting the functional capabilities in the requirements. b. Equipment providing other functionality not explicitly stated in the RMA requirements that follow.
S-PLS-60450	A	The PLNHW CI elements and components shall include the on-line (operational mode) and off-line (test-mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.	EOSD4100#A	The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.
			EOSD4100#B	The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.
S-PLS-60610	A	The PLNHW CI shall interface with the ISS.	EOSD1705#B	ECS shall support interfaces to DAAC Unique components.
			EOSD5240#B	ECS shall enable addition of new data types significantly different from previous types with minimal changes to the core architecture.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-60630	A	The PLNHW CI shall provide maintenance interfaces to support the function of System Maintenance.	EOSD1703#A	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance
			EOSD1703#B	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance
S-PLS-60640	A	The PLNHW CI shall provide operations interfaces to support the function of System Maintenance.	EOSD1703#A	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance
			EOSD1703#B	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance
S-PLS-61010	A	The PLNHW CI shall support test activities throughout the development phase.	SDPS0140#A	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			EOSD0510#A	ECS shall be capable of being tested during all phases of its development and flight operations.
			SDPS0140#B	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			EOSD0510#B	ECS shall be capable of being tested during all phases of its development and flight operations.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-61020	A	The following testing shall be performed on the PLNHW CI: a. Unit testing b. Subsystem testing c. Integration & Testing d. End-to- End testing	EOSD0510#A	ECS shall be capable of being tested during all phases of its development and flight operations.
			SDPS0140#B	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			SDPS0140#A	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
S-PLS-61040	A	Internal testing shall be performed on the PLNHW CI which includes tests of hardware functions, and integration testing with other SDPS subsystems.	EOSD0510#A	ECS shall be capable of being tested during all phases of its development and flight operations.
			EOSD0510#B	ECS shall be capable of being tested during all phases of its development and flight operations.
S-PLS-61050	A	Internal testing shall be performed on the PLNHW CI to verify the internal interfaces to the Data Server, and Ingest subsystems.	EOSD0510#B	ECS shall be capable of being tested during all phases of its development and flight operations.
			EOSD0510#A	ECS shall be capable of being tested during all phases of its development and flight operations.
S-PLS-61080	A	The PLNHW CI shall be capable of supporting end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases.	EOSD0800#A	Each ECS element shall be capable of supporting end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases.
			SDPS0140#B	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			SDPS0140#A	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
			EOSD0800#B	Each ECS element shall be capable of supporting end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases.
S-PLS-61150	A	The PLNHW CI shall be capable of being monitored during testing.	EOSD0750#B	Each ECS element shall provide a set of real or simulated functions which interfaces with both its ECS internal and external entities for use in the following types of test: a. Subsystem (components of an ECS element) b. Element (fully integrated element) c. EOSDIS System (Integration of EOSDIS elements)

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			EOSD0750#A	Each ECS element shall provide a set of real or simulated functions which interfaces with both its ECS internal and external entities for use in the following types of test: a. Subsystem (components of an ECS element) b. Element (fully integrated element) c. EOSDIS System (Integration of EOSDIS elements)
S-PLS-61210	A	The operating system for each Unix platform in the PLNHW CI shall conform to the POSIX.2 standard.	PGS-0920#B	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
			PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
S-PLS-61220	A	Each PLNHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.	PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
			PGS-0920#B	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
S-PLS-61230	A	Each PLNHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.	PGS-0920#B	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
			PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-61240	A	Each PLNHW CI platform shall have the following POSIX.2 Software Development utilities installed: make, imake.	PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
			PGS-0920#B	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
S-PLS-61260	A	Each PLNHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.	PGS-0920#B	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
			PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
S-PLS-61350	A	Each PLNHW CI POSIX.2 compliant platform shall have a screen capture utility.	PGS-0602#A	The PGS shall have the capability to accept POSIX-compliant science algorithms and compile algorithm source code written in a standard programming language (e.g., Fortran, C, Ada).
			PGS-0602#B	The PGS shall have the capability to accept POSIX-compliant science algorithms and compile algorithm source code written in a standard programming language (e.g., Fortran, C, Ada).
S-PLS-61530	A	The PLNHW CI shall contain the processing, storage, and interface resources to support the planning functions for the TRMM mission instruments of CERES and LIS.	EOSD0500#B	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling b. EOS Mission Operations c. Command and Control d. Communications and Networking e. Data Input f. Data Processing g. Data Storage h. Data Distribution i. Information Management j. End-to-End Fault Management k. System Management

Planning Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-PLS-61610	A	Each PLNHW CI workstation platform shall provide a hard media device with a capacity of TBD GB for software and system maintenance and upgrade support.	EOSD0500#B	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling b. EOS Mission Operations c. Command and Control d. Communications and Networking e. Data Input f. Data Processing g. Data Storage h. Data Distribution i. Information Management j. End-to-End Fault Management k. System Management

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